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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,010	08/01/2003	Michael A. Rothman	42P17249	4383

8791   7590   08/28/2006

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EXAMINER
VO, THANH DUC

ART UNIT	PAPER NUMBER
2189	

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

<table>
<tr><td rowspan="2">Office Action Summary</td><td>Application No.
10/633,010</td><td>Applicant(s)
ROTHMAN ET AL.</td></tr>
<tr><td>Examiner
Thanh D. Vo</td><td>Art Unit
2189</td></tr>
</table>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 June 2006*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40,42 and 43* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-40,42 and 43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 June 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

    1.☐ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____.

    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   This Office Action is responsive to the Amendment filed on June 15, 2006.

Claims 1-40, and 42-43 are presented for examination. Claims 1-40, and 42-43 are

pending. All objections or rejections not repeated below have been withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claims 1-5, 14, 20-24, and 33 are rejected under 35 U.S.C. 102(b) as being

unpatentable by Motoyama et al. (hereinafter Motoyama) of U.S. Patent 6,304,948. .

As per claims 1 and 20, Motoyama discloses a method and an article for

managing memory usage comprising:

a storage medium having a plurality of machine accessible instructions and

wherein when the instructions are executed by a processor (with respect to claim 20) *is*

an inheritance feature in the computer art since a storage medium is to be read from or

written to at the time the of the machine operation and always comprise a processor.

determining whether a file stored on a user/hardware accessible portion of a non-

volatile memory device (Fig. 4A, items 200 and 202) in a computing system has been

resided in the non-volatile memory device within a pre-determined period (see col. 5, lines 53-60); (in respect to claims 1 and 20); and

if the file has been resided within the pre-determined period, purging the file to enable the recovery of storage space in the user/hardware accessible portion of the non-volatile memory device being occupied by unused or infrequently accessed files. See col. 5, lines 53-60; *wherein the file/data is erased/purged after a specified period of time.* (in respect to claims 1 and 20).

Motoyama further teaches a method of data/file purging or erasing based on a heuristic process, such as least-recently-used algorithm, probability, or statistics. See co. 5, lines 53-55 and col. 6, lines 22-25 (with respect to claims 1 and 20)

As per claims 2 and 21, Motoyama disclosed a file comprises a variable. See col. 5, lines 26-28; *wherein a variable is equivalent to a metadata to describe the other data.*

As per claims 3 and 22, Motoyama further disclosed, wherein access-aging policies based on heuristics that are platform specific to the computing system are used to determine whether a file stored on the user/hardware accessible portion of the non-volatile memory device has been accessed within a pre-determined period. (See col. 5, line 64 – col. 6, line 6; and col. 6, lines 22-25).

As per claims 4 and 23, Motoyama further disclosed, wherein purging the file comprises deleting the file from the user/hardware accessible portion of the non-volatile memory device. See col. 5, lines 53-55.

As per claims 5 and 24, Motoyama further disclosed, wherein purging the file comprises deleting the file from the computing system. See col. 5, lines 53-55. *The computing system comprises non-volatile memory and the file is resided within the non-volatile memory. Therefore, deleting/purging the file from a non-volatile memory is apparent purging from the computing system as well.*

As per claims 14 and 33, Motoyama discloses a method, wherein determining whether a file stored on a user/hardware accessible portion of a non-volatile memory device in a computing system has been accessed within a pre-determined period. (See rejection in claims 1, 3, 20, and 24).

In addition, the term "stale" refers to a condition wherein the file is at the age where it has passed a pre-determined period of time. Therefore, the term stale is equivalent to the condition where the file has not been accessed for a pre-determined period of time and claims 14 and 34 are rejected under the same rationale as claims 1, 3, 20, and 24.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 15-18 and 34-37 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Motoyama et al. (hereinafter Motoyama) of U.S. Patent 6,304,948.

As per claims 15 and 34, although Motoyama did not explicitly disclose a

method, wherein a user interacts with the computing system to determine which stale

files in a list of files indicated as being stored on the user/hardware accessible portion

of the non-volatile memory device are selected to be purged. However, it would have

been obvious to one having ordinary skill in the art at the time the invention was made

to combine a user interaction with the computing system to determine which stale files

are selected to be purged, since it has been held that broadly providing a mechanical

or automatic means to replace manual activity or vice versa which has accomplished

the same result involves only routine skill in the art. *In re Venner, 120 USPQ 192.*

Therefore, it would have been obvious to one having an ordinary skill in the art to

implement the user interaction in combining with the method of selecting a stale file to

be purged in order to arrive at the invention in claims 15 and 36.

As per claims 16 and 35, Motoyama further disclosed a method of removing the

old and not useful data so that the more useful data can take place. See col. 5, line 53

– col. 6, line 6.

Motoyama did not explicitly disclosed a method wherein monitoring the

user/hardware accessible portion of the non-volatile memory device to prevent

depletion of available user/hardware accessible space. However, it would have been

obvious to one having an ordinary skill in the art at the time of the Applicant's invention

to recognize that removing or erasing data after a certain period of time in a frequently

used storage device is the method of determining if the memory is full so that when the

next data to be stored in the memory will not give the an "overflow" error since the

memory is full. In doing so, it would help the system to avoid any delay or system

error.

Therefore, it would have been obvious to modify the system of Motoyama to

combine with the method said forth to arrive at the invention claim in claims 16 and 35.

As per claims 17 and 36, Motoyama disclosed a method, wherein monitoring the

user/hardware accessible portion of the non-volatile memory device comprises altering

access-aging policies to accelerate the purging of files from the user/hardware

accessible portion to prevent depletion of the any remaining user/hardware accessible

space. (See rejection of claim 16, col. 5, line 53-col. 6, line 6, and col. 6, lines 19-25).

Wherein Motoyama disclosed a method where each entry is selected for processing

based on heuristic process such as LRU algorithm, probability, and statistics. In doing

so, an ordinary skill in the art would easily recognize that the entry/file in a non-volatile

memory device is being deleted/erased based on various policies. Therefore, it would

have been obvious to one having an ordinary skill in the art at the time of the

Applicant's invention to use various policies to enhance the replacement/purging

algorithm to the most efficient manner as possible to save time and increase data

throughput.

As per claims 18 and 37:

Even though claims 18 and 37 are slightly different in wording but it would have

covered the same subject matter as of claims 16 and 35 respectively; therefore it is

rejected under the same rationale as claims 16 and 35 respectively.

4.   Claims 6-11, 19, 25-30, and 38 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Motoyama et al. (hereinafter Motoyama) of U.S. Patent No.

6,304,948 in view of Mandal et al. (hereinafter Mandal) of U.S. Patent No. 6,983,465.

As per claims 6 and 25, Motoyama failed to further disclosed, wherein purging

the file comprises **offloading the file to an alternative non-volatile memory** device

capable of storing the file indefinitely.

Mandal discloses a memory managing system wherein the cache memory is a

non-volatile memory (NVRAM) and the file that was written to the cache memory is

eventually destaged (purged/offloaded) to another storage device such as a disk,

wherein a disk is apparently a non-volatile type of memory storage device. See page 7, paragraph 0071.

Motoyama and Mandal are from the same field of endeavor, memory-managing system.

At the time of the Applicant's invention, it would have been obvious to one having an ordinary skill in the art to realize the advantage of offloading the file to an alternative non-volatile memory instead of permanently deleting/erasing the file out of the computer system.

The motivation of doing so is to enable the system to temporarily stored the purged data from a more frequently access memory to another less frequently access memory so that when the file is needed once again in the more frequently access memory it could easily be transferred or restored back so that it will process faster which is always critical to memory accessing system.

Therefore, it would have been obvious to one having an ordinary skill in the art at the time of the Applicant's invention to modify the system of Motoyama to combine with the system of Mandal to arrive at the invention claim in claims 6 and 25.

As per claims 7 and 26, Motoyama further disclosed, wherein the non-volatile memory device comprises a FLASH memory device (col. 4, lines 58-60) wherein purging the file from a non-volatile memory devices comprises:

deleting the file from the FLASH memory device. See col. 6, line 6.

Motoyama did not explicitly disclose, wherein offloading the file to an alternative

non-volatile memory device comprises:

copying the file to the alternative non-volatile memory device.

Mandal discloses a memory managing system wherein the cache memory is a

non-volatile memory (NVRAM) (see page 1, paragraph 0003) and the file that was

written to the cache memory is eventually destaged (purged/offloaded) to another

storage device such as a disk, wherein a disk is apparently a non-volatile type of

memory storage device. See page 7, paragraph 0071.

Motoyama and Mandal are from the same field of endeavor, memory-managing

system.

At the time of the Applicant's invention, it would have been obvious to one having

an ordinary skill in the art to realize the advantage of copying the file to an alternative

non-volatile memory instead of permanently deleting/erasing the file out of the

computer system.

The motivation of doing so is to enable the system to temporarily stored the

purged data from a more frequently access memory to another less frequently access

memory so that when the file is needed once again in the more frequently access

memory it could easily be transferred or restored back so that it will process faster

which is always critical to memory accessing system.

Therefore, it would have been obvious to one having an ordinary skill in the art at the time of the Applicant's invention to modify the system of Motoyama to combine with the system of Mandal to arrive at the invention claim in claims 7 and 26.

As per claims 8 and 27:

Claims 8 and 27 are claiming the same subject matter as in claims 7 and 26, respectively; therefore claims 8 and 27 are rejected under the same rationale. Please see claims 7 and 26 rejections for more detail of the nature of the rejection.

As per claims 9 and 28, Motoyama disclosed a second non-volatile memory device comprises an optical, magnetic disks (hard drives), CD-ROM, and floppy disk. See col. 11, lines 45-65.

Motoyama failed to disclosed, wherein the first non-volatile memory device comprises a non-volatile random access memory device and the second non-volatile memory device comprises at least one of a hard drive, a tape drive, a writeable compact disk (CD) drive, a floppy disk drive, and a remote location on a network.

Mandal disclosed a first non-volatile memory device comprises a non-volatile random access memory device (see page 1, paragraph 003).

Motoyama and Mandal are from the same field of endeavor, memory managing system.

At the time of the Applicant's invention, it would have been obvious to one having an ordinary skill in the art to readily realize the advantage of using NVRAM instead of other conventional random access memory.

The motivation of doing so is because NVRAM is as fast as any other random access memory while NVRAM is more reliable since NVRAM does not lose the data during power loss or system failure.

Therefore, it would have been obvious to one having an ordinary skill in the art at the time of the Applicant's invention to use the NVRAM instead of ordinary RAM to utilize the advantage of NVRAM to arrive at the invention claim in claims 9 and 28.

As to per claims 10 and 29, Motoyama failed to disclose, wherein the non-volatile memory device comprises a non-volatile random access memory (NVRAM) device.

Mandal disclosed a non-volatile memory device comprises a non-volatile random access memory device (NVRAM) (see page 1, paragraph 003).

Motoyama and Mandal are from the same field of endeavor, memory managing system.

At the time of the Applicant's invention, it would have been obvious to one having an ordinary skill in the art to readily realize the advantage of using NVRAM instead of other conventional random access memory.

The motivation of doing so is because NVRAM is as fast as any other random access memory while NVRAM is more reliable since NVRAM does not lose the data during power loss or system failure.

Therefore, it would have been obvious to one having an ordinary skill in the art at the time of the Applicant's invention to use the NVRAM instead of ordinary RAM to utilize the advantage of NVRAM to arrive at the invention claim in claims 10 and 29.

As per claims 11 and 30, although neither Motoyama nor Mandal disclosed a NVRAM device comprises a FLASH memory device. However, it would have been obvious to one having an ordinary skill in the art at the time of the Applicant's invention to recognize that the term "FLASH" refers to a type of non-volatile memory such as non-volatile random access memory (NVRAM). In addition, Flash memory has low power consumption, fast access times and low cost. It is well suited for use in any application that requires high density storage but cannot support a disk drive or other mass storage device due to high power consumption or additional weight.

Therefore, it would have been obvious to one having an ordinary skill in the art at the time of the Applicant's invention to use FLASH memory device to take the advantages said forth.

As per claims 19 and 38, Motoyama failed to further disclosed, wherein purging the file comprises **offloading the file to an alternative non-volatile memory** device capable of storing the file indefinitely, wherein if the file is needed, the computer system will retrieve the file from the alternative non-volatile memory device when the file is not found in the user/hardware accessible portion of the non-volatile memory device.

Mandal discloses a memory managing system wherein the cache memory is a non-volatile memory (NVRAM) and the file that was written to the cache memory is eventually destaged (purged/offloaded) to another storage device such as a disk, wherein a disk is apparently a non-volatile type of memory storage device. See page 7, paragraph 0071.

Mandal further disclosed a method, wherein if the file is need and it is not filed in the host memory (non-volatile memory) then the request is made to the device driver to request the data from the storage device (alternative non-volatile memory device). See page 8, paragraph 0076.

Motoyama and Mandal are from the same field of endeavor, memory-managing system.

At the time of the Applicant's invention, it would have been obvious to one having an ordinary skill in the art to realize the advantage of offloading the file to an alternative non-volatile memory and request it back at the later time instead of permanently deleting/erasing the file out of the computer system.

The motivation of doing so is to enable the system to temporarily stored the purged data from a more frequently access memory to another less frequently access memory so that when the file is needed once again in the more frequently access memory it could easily be transferred or restored back so that it will process faster which is always critical to memory accessing system.

Therefore, it would have been obvious to one having an ordinary skill in the art at the time of the Applicant's invention to modify the system of Motoyama to combine with the system of Mandal to arrive at the invention claim in claims 19 and 38.

5.   Claims 12,13, 31, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Motoyama et al. (hereinafter Motoyama) of U.S. Patent No. 6,304,948 in view of Mandal et al. (hereinafter Mandal) of U.S. Patent No. 6,983,465 and further in view of Applicant Admitted Prior Art (hereinafter AAPA).

As per claims 12 and 31, although neither Motoyama nor Mandal explicitly disclosed wherein the FLASH memory device comprises a main system firmware portion and the user/hardware accessible portion, wherein the memory capacity of the main system firmware portion is larger than the memory capacity of the user/hardware accessible portion.

However, AAPA disclosed a FLASH memory device comprises a main system firmware portion and the user/hardware accessible portion, wherein the memory capacity of the main system firmware portion is larger than the memory capacity of the user/hardware accessible portion. See paragraphs 0004-0006.

Motoyama, Mandal, and AAPA are from the same field of endeavor, memory-managing system.

At the time of the Applicant's invention it would have been obvious to one having an ordinary skill in the art to utilize the FLASH memory device disclosed by AAPA.

The motivation of doing so is to reserve more memory storage area for the system firmware since the firmware is a more critical portion to the of the system operation.

Therefore, it would have been obvious to one having an ordinary skill in the art at the time of the Applicant's invention to utilize the FLASH memory device disclosed in the AAPA to combine with the invention of Motoyama and Mandal to arrive at the invention of claims 12 and 31.

As per claims 13 and 32, although neither Motoyama nor Mandal explicitly disclosed, wherein the main system firmware portion comprises computer program code to maintain the user/hardware accessible portion of the non-volatile memory device. However, AAPA disclosed the main system firmware portion comprises computer program code to maintain the user/hardware accessible portion of the non-volatile memory device. See paragraph 0004.

Motoyama, Mandal, and AAPA are from the same field of endeavor, memory-managing system.

At the time of the Applicant's invention it would have been obvious to one having an ordinary skill in the art to recognize that it is advantageous to include computer program code to the firmware portion of the FLASH memory device.

The motivation of doing so is to enable the system to have a set of program instructions in order to operate, control, and determine the appropriate set of instruction or step to perform a requested operation or responding to user interaction.

Therefore, it would have been obvious to one having an ordinary skill in the art at

the time of the Applicant's invention to utilize the FLASH memory device comprises

computer program code disclosed in the AAPA to combine with the invention of

Motoyama and Mandal to arrive at the invention of claims 13 and 32.

6.   Claim 39, 40, 41, and 42 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Applicant Admitted Prior Art (hereinafter AAPA) in view of Motoyama

et al. (hereinafter Motoyama) of U.S. Patent 6,304,948.

As per claim 39, AAPA discloses a computing system comprising:

a processor and a non-volatile memory device coupled to the processor

(paragraph 004, wherein the Applicant disclosed a personal computer includes a non-

volatile memory), the non-volatile memory device comprising a main system firmware

portion (paragraph 0004 and 0006) and a user/hardware accessible portion (paragraph

0004), the main system firmware portion comprising computer program code for

enabling the process to manage memory usage of the user/hardware accessible

portion. See paragraph 0004-0006. Furthermore, a computer program code is

equivalent to the configuration data as disclosed by AAPA in paragraph 0004 since

configuration data has a mean and algorithm to configure and instruct all of the

procedure and method running within a non-volatile memory device.

AAPA did not disclosed a computer program code that comprises access-aging

policies based on heuristics that are platform specific to the computing system are

used to determine whether a file stored on the user/hardware accessible portion of the

non-volatile memory device has been accessed within a pre-determined period.

Motoyama disclosed a memory system includes access-aging policies based on

heuristics that are platform specific to the computing system are used to determine

whether a file stored on the user/hardware accessible portion of the non-volatile

memory device has been resided in the non-volatile memory device within a pre-

determined period (See col. 5, line 64 – col. 6, line 6; and col. 6, lines 22-25).

AAPA and Motoyama are from the same field of endeavor, memory-managing

system.

At the time of Applicant's invention it would have been obvious to one having an

ordinary skill in the art to recognize that it is advantageous to combine the system and

method of Motoyama with the computing system in claim 39.

The motivation of doing so is to enable the computing system to purge or remove

unused or infrequently access data from a storage region that it could have been used

by more useful data file.

As per claim 40, AAPA disclosed a computing system, wherein the non-volatile

memory device comprises at least one non-volatile random access memory (NVRAM)

device. See paragraph 0004.

As per claim 42, AAPA further disclosed, wherein the memory capacity of the user/hardware accessible portion is less than the memory capacity of the main system firmware portion of the non-volatile memory. See paragraph 0006.

7.   Claim 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (hereinafter AAPA) in view of Mandal et al. (hereinafter Mandal) of U.S. Patent 6,983,465.

As per claim 43, AAPA failed to disclose a computing system, further comprising an alternate non-volatile storage device, wherein files stored within the user/hardware accessible portion that have not been accessed within a pre-determined period of time are offloaded to the alternate non-volatile storage device, wherein the alternate non-volatile storage device is capable of storing the files indefinitely.

Mandal discloses a memory managing system wherein the cache memory is a non-volatile memory (NVRAM) and the file that was written to the cache memory is eventually destaged (purged/offloaded) to another storage device such as a disk, wherein a disk is apparently a non-volatile type of memory storage device. See page 7, paragraph 0071.

AAPA and Mandal are from the same field of endeavor, memory-managing system.

At the time of the Applicant's invention, it would have been obvious to one having an ordinary skill in the art to realize the advantage of offloading the file to an alternative

non-volatile memory instead of permanently deleting/erasing the file out of the

computer system.

The motivation of doing so is to enable the system to temporarily stored the

purged data from a more frequently access memory to another less frequently access

memory so that when the file is needed once again in the more frequently access

memory it could easily be transferred or restored back so that it will process faster

which is always critical to memory accessing system.

Therefore, it would have been obvious to one having an ordinary skill in the art at

the time of the Applicant's invention to modify the system of AAPA to combine with the

system of Mandal to arrive at the invention claim in claim 43.

Response to Arguments

8.   Applicant's arguments filed 6/15/2006 have been fully considered but they are

not persuasive.

With respect to the Applicant's remarks on page 13, last paragraph to page 14,

lines 1-2; Applicant cited the Abstract, col. 5, lines 30-50; col. 7, lines 21 – col. 8, line 67

of Motoyama. The cited lines and columns by the Applicant have been considered

however the Applicant is arguing away from the cited lines and columns indicated by the

Examiner in the Office Action dated March 03, 2006. Therefore, independent claims 1

and 20 stand rejected as being anticipated Motoyama.

With respect to the remarks on page 14, last paragraph in corresponding to the

independent claim 39, wherein claim 39 has been amended to include the subject
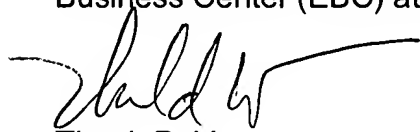
matter that was cancelled from dependent claim 41. However, claim 41 was rejected

under 35 U.S.C 103(a) as being anticipated by AAPA in view of Motoyama. Therefore,

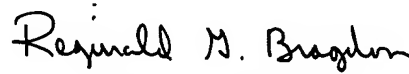amended claim 39 would be rejected in combination of AAPA and the teaching of

Motoyama.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Thanh D. Vo whose telephone number is (571) 272-

0708. The examiner can normally be reached on M-F 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Reginald G. Bragdon can be reached on (571) 272-4204. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

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Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Thanh D. Vo
Patent Examiner
Art Unit: 2189
08/23/2006

REGINALD BRAGDON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100